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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,238	05/04/2006	Kyoji Kitamura	04473/005001	1946
22511	7590	11/30/2007		
OSHA LIANG L.L.P. 1221 MCKINNEY STREET SUITE 2800 HOUSTON, TX 77010			EXAMINER LAM, HUNG Q	
			ART UNIT 2883	PAPER NUMBER
			NOTIFICATION DATE 11/30/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com  
buta@oshaliang.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/578,238	<b>Applicant(s)</b> KITAMURA ET AL.	
	<b>Examiner</b> Hung Lam	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 12-16 is/are rejected.
- 7) ☐ Claim(s) 4-10 and 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of the Application***

Claims 3 and 11 are cancelled.

Claims 1-2, 4-10 and 12-20 are pending in this application.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-2, 4-10 and 12-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negative by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moore et al.** (US. Pub. 2001/0037028) in the view of **Holland et al.** (US. Pat. 3,868,408).

**Regarding claims 1, Moore et al.** disclose halogenated acrylates and polymers derived therefrom under a composition such as Acryloyloxy-1-pentafluorocyclohexane, wherein certain acrylates may also be useful as crosslinkers (methacrylate crosslinkers) ([0155]-[0156], Example 7-8, and [0125]). Therefore, it renders obviousness or motivation that one having ordinary skill in the art at the time the invention was made would have known that a crosslinked and cured resin product would be prepared from a crosslinkable fluorine containing monomer composition containing a perfluorocyclohexane ring and one or more radical polymerization groups by radical polymerization, wherein the radical polymerization group is acryloyloxy. The motivation for doing so is because “[T]he corresponding polyfunctional homologous methacrylate crosslinkers may be substituted for any of the acrylate crosslinkers” and also “acrylates from brominated aromatic polyols can have utility in raising the refractive index of any acrylate system requiring crosslinking and/or flame resistance” ([0132]).

**Regarding claim 13**, in accordance with the rejection of claim 1, **Moore et al.** further disclose the radical polymerization method is a heating/thermal and photo initiator method ([0123]).

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Moore et al.** in the view of **Holland et al.** (US. Pat. 3,868,408).

**Regarding claim 2**, in accordance with the rejection of claim 1, **Moore et al.** further disclose the claimed invention except for the limitation in which one or more perfluorocyclohexane rings derived from one of monosubstituted, disubstituted and trisubstituted monomer, are included as the perfluorocyclohexane ring.

**Holland et al.** disclose as new compositions of matter polymers wherein a formula  $C_6F_{10}$  represents a monosubstituted or disubstituted monomer perfluorocyclohexane ring (col. 2, lines 37-38).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of **Holland et al.** in **Moore et al.** as to derive the perfluorocyclohexane ring from a compatible of the monosubstituted or disubstituted monomer. The motivation for doing so is because “with a compatible monomer, by conventional polymerization techniques to obtain polymeric materials having useful characteristics including high thermal stability, high glass transition temperatures and hydrolytic stability”, and also “...when monomers or polymeric materials prepared in accordance with the present invention are applied to suitable substrates” (Holland et al. col. 2 lines 45-55).

**Claims 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moore et al.** in the view of **DeSimone et al.** (US. Pub. 2002/0119398)

**Regarding claim 12**, in accordance with the rejection of claim 1, **Moore et al.** further disclose the claimed invention except for the limitation of one or more radical polymerization groups contains an alkylene group represented by general formula  $-(CH_2)_n-$  between the perfluorocyclohexane ring and the radical polymerization group.

**DeSimone et al.** disclose a coating method using self-assembling monolayer (SAMs) including a functionalized alkane thiols such as those represented by the formula:  $X-(CH_2)_n-S-H$  ([0013]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of **DeSimone et al.** in **Moore et al.** as to provide the radical polymerization groups contains an alkylene group represented by general formula  $-(CH_2)_n-$ , between the perfluorocyclohexane ring and the radical polymerization group. The motivation for doing so is by providing the coating method to a substrate with the teachings above, wherein n ranges from 1 to 1000, would provides a wide range of components/materials can be used to form a coating on the substrate (DeSimone et al. [0012]-[0014]).

**Regarding claim 14**, in accordance with the rejection of claim 1, **Moore et al.** further disclose the claimed invention except for the limitation of wherein Young's modulus of the cured-resin product is 2500 MPa or more. Additionally, **DeSimone et al.** disclose the polymer resin is determined to be soluble at 5000 psi ([0081]).

Since applicant has not pointed to any criticality of such that optimum value, it would have been obvious to the one having ordinary skill in the art at the time the invention was made

would set the polymer resin is determined to be soluble at the pressure of 2500 MPa, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The motivation for doing so is to would be that high modulus is desirable in facilitating connectorization of optical fibers as known in the art. This rejection may be overcome by a showing of unexpected results associated with such a value.

**Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moore et al.** in the view of **Suzuki et al.** (US. Pub. 2003/0026574)

**Regarding claims 15 and 16, Moore et al.** further disclose the claimed invention except for the optical component composed of a cured-resin-product is an optical waveguide-like part, which is also prepared by stamper method.

**Suzuki et al.** disclose an optical waveguide provided on a substrate, which comprise a core and a clad formed around the core, wherein the clad is made of a fluorinated alicyclic structure-containing polymer having functional groups and fluorinated-containing solvent such as perfluorocyclohexane ([0078]-[0081]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of **Suzuki et al.** in **Moore et al** by using a cured-resin product in preparing an optical waveguide-like part by a stamper method. The motivation for doing so is because the optical waveguide can be obtained in the same manner as the optical cladding, and "...the core material, together with the fluorinated alicyclic structure-containing polymer having functional groups, a compound having a functional group reactive with the

functional group, as a compound to increase the refractive index, the diffusion of the compound into the clad can be suppressed" (Suzuki et al. [0089]-[0091], [0094], [0101]).

***Allowable Subject Matter***

Claims 4-10 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For instance, the limitation of "one or more fluorine-containing monomers containing no perfluorocyclohexane ring; or prepared from one or more monomers containing one or more fluorine-containing monomers containing no perfluorocyclohexane ring and containing two or more radical polymerization groups" and "the crosslinked and cured-resin product is prepared from a composition of one or more polymers or copolymers containing a perfluorocyclohexane ring, or the mixture thereof, dissolved in one or more monomers selected from fluorine-containing monomers containing two or more radical polymerization groups", which distinguish over the prior arts of records.

It is the examiner opinion that prior art taken alone or in combination does not disclose or render obvious to the claimed limitation discussed above.

**Cited Prior Art**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Abe** (US. Pat. 5049622)

**Akama et al.** (US. Pat. 6403744)

**Langsam et al.** (US. Pat. 3767728).



*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Lam whose telephone number is 571-272-9790. The examiner can normally be reached on M - F 07:30 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hung Lam,  
Assistant Examiner  
Tel.: 571-272-9790

*/ Charlie Peng /*  
Charlie Peng  
Patent Examiner  
Art Unit 2883